

### **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

### **Listing of Claims:**

1. **(Currently amended)** A method for forwarding multicast message in network communication comprising:
  - a. establishing a forwarding match condition at an ingress interface of a network device required to forward multicast message, the forwarding match condition specifying a multicast message forwarding rule designated by a user for multicast message independently of a multicast routing forwarding table, the multicast message forwarding rule having a message forwarding destination specified therein;
  - b. comparing a multicast message which enters the network device through the interface and needs to be forwarded with the established forwarding match condition;
  - c. forwarding the multicast message according to the comparing result.
2. **(Original)** A method for forwarding multicast message in network communication of claim 1, wherein said forwarding match condition is a multicast message forwarding rule group consisting of more than one multicast message forwarding rule.
3. **(Previously presented)** A method for forwarding multicast message in network communication of claim 2, wherein said step b comprises:
  - b1. determining whether the message entering through the interface is a multicast message;
  - b2. if the message entering through the interface is a multicast message, comparing the multicast message with individual multicast message forwarding rules contained in the forwarding match condition;
  - b3. if the message entering through the interface is not a multicast message, forwarding the message in unicast mode.
4. **(Previously presented)** A method for forwarding multicast message in network communication of claim 3, wherein said step b2 comprises step of comparing source address

information in the multicast message with source address information in the multicast message forwarding rule.

**5. (Previously presented)** A method for forwarding multicast message in network communication of claim 3, wherein said step b2 comprises step of comparing source address and destination address information in the multicast message with source address and destination address information in the multicast message forwarding rule.

**6. (Previously presented)** A method for forwarding multicast message in network communication of claim 3, wherein said step b2 comprises step of comparing ingress interface information in the multicast message with ingress interface information in the multicast message forwarding rule.

**7. (Previously presented)** A method for forwarding multicast message in network communication of claim 3, wherein said step b2 comprises:

b21. determining whether there is a multicast message forwarding rule established at the interface of the network device;

b22. if there is a multicast message forwarding rule established at the interface of the network device, comparing information carried by the multicast message with corresponding information in the multicast message forwarding rule;

b23. if no multicast message forwarding rule is established at the interface of the network device, forwarding the multicast message according to a multicast routing forwarding table.

**8. (Previously presented)** A method for forwarding multicast message in network communication of claim 2, wherein said step c comprises:

c1. determining whether there is a multicast message forwarding rule matching information carried by the multicast message in the forwarding match condition;

c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;

c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to a multicast routing forwarding table.

**9. (Previously presented)** A method for forwarding multicast message in network communication of claim 8, wherein said step c2 comprises:

c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;

c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;

c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.

**10. (Previously presented)** A method for forwarding multicast message in network communication of claim 9, wherein said step c23 comprises:

c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;

c232. if the type of egress interface is NBMA (Non-Broadcast Multiple Access, i.e. point to multipoint), forwarding the message according to the egress interface;

c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP (Point To Point), directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.

**11. (Previously presented)** A method for forwarding multicast message in network communication of claim 3, wherein said step c comprises:

c1. determining whether there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition;

c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;

c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to a multicast routing forwarding table.

**12. (Previously presented)** A method for forwarding multicast message in network communication of claim 11, wherein said step c2 comprises:

c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;

c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;

c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.

**13. (Previously presented)** A method for forwarding multicast message in network communication of claim 12, wherein said step c23 comprises:

c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;

c232. if the type of egress interface is NBMA (point to multipoint), forwarding the message according to the egress interface;

c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP, directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.

14. **(Previously presented)** A method for forwarding multicast message in network communication of claim 4, wherein said step c comprises:

- c1. determining whether there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition;
- c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;
- c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to a multicast routing forwarding table.

15. **(Previously presented)** A method for forwarding multicast message in network communication of claim 14, wherein said step c2 comprises:

- c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;
- c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;
- c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.

16. **(Previously presented)** A method for forwarding multicast message in network communication of claim 15, wherein said step c23 comprises:

- c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;
- c232. if the type of egress interface is NBMA (point to multipoint), forwarding the message according to the egress interface;
- c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP, directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.

17. **(Previously presented)** A method for forwarding multicast message in network communication of claim 5, wherein said step c comprises:

- c1. determining whether there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition;
- c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;
- c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to a multicast routing forwarding table.

18. **(Previously presented)** A method for forwarding multicast message in network communication of claim 17, wherein said step c2 comprises:

- c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;
- c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;
- c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.

19. **(Previously presented)** A method for forwarding multicast message in network communication of claim 18, wherein said step c23 comprises:

- c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;
- c232. if the type of egress interface is NBMA (point to multipoint), forwarding the message according to the egress interface;

c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP, directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.

**20. (Previously presented)** A method for forwarding multicast message in network communication of claim 6, wherein said step c comprises:

c1. determining whether there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition;

c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;

c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to a multicast routing forwarding table.

**21. (Previously presented)** A method for forwarding multicast message in network communication of claim 20, wherein said step c2 comprises:

c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;

c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;

c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.

**22. (Previously presented)** A method for forwarding multicast message in network communication of claim 21, wherein said step c23 comprises:

c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;

c232. if the type of egress interface is NBMA (point to multipoint), forwarding the message according to the egress interface;

c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP, directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.

**23. (Previously presented)** A method for forwarding multicast message in network communication of claim 7, wherein said step c comprises:

c1. determining whether there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition;

c2. if there is a multicast message forwarding rule matching the information carried by the multicast message in the forwarding match condition, forwarding the multicast message according to the multicast message forwarding rule;

c3. if no multicast message forwarding rule in the forwarding match condition matches the information carried by the multicast message, forwarding the multicast message according to the multicast routing forwarding table.

**24. (Previously presented)** A method for forwarding multicast message in network communication of claim 23, wherein said step c2 comprises:

c21. determining whether the message forwarding destination specified in the multicast message forwarding rule is a forwarding egress interface or a next hop address;

c22. if the destination is a forwarding egress interface, and if the message is configured with a plurality of forwarding egress interfaces, forwarding the message to all the forwarding egress interfaces after copying it;

c23. if the destination is a next hop address, forwarding the message according to a unicast routing forwarding table and if the message is configured with a plurality of next hop addresses, forwarding the message to all the next hop addresses after copying it.



25. **(Previously presented)** A method for forwarding multicast message in network communication of claim 24, wherein said step c23 comprises:

c231. searching the unicast routing forwarding table and determining the type of egress interface corresponding to the next hop address;

c232. if the type of egress interface is NBMA (point to multipoint), forwarding the message according to the egress interface;

c233. if the type of egress interface is broadcast, forwarding the message according to the next hop address in the unicast routing forwarding table and setting the property of the message as unicast message;

C234. if the type of egress interface is PTP, directly forwarding the message according to the next hop address specified in the multicast message forwarding rule.